ABSTRACT

The present invention relates to a solid and method useful in separating chemical components in a complex mixture when at least one of the chemical components of the mixture is capable of being selectively adsorbed. The solid of the present invention comprises an inorganic substance and moieties (R_{10}) located on at least one surface of the inorganic substance, wherein said inorganic substance is an inorganic oxide and the surface moiety is selected from the group consisting of $-CH_2OH$, $-CH(OH)_2$, $-CH(OH)CH_3$, $-CH_2CH_2OH$, $-C(OH)_2CH_3$, $-CH_2CH(OH)_2$ and $-CH(OH)CH_2(OH)$. Binding moiety, optionally attached to the inorganic substance via a linker, can also be located on the surface of the solid.